

# White paper

June 2007

## W908c

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Sophisticated playfulness



Sony Ericsson

# Preface

## Purpose of this document

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This White paper will be published in several revisions as the phone is developed. Therefore, some of the headings and tables in this document contain limited information. Additional information and facts will be forthcoming in later revisions.

The aim of this White paper is to give the reader an understanding of the main functions and features of this phone.

People who can benefit from this document include:

- Operators
- Service providers
- Software developers
- Support engineers
- Application developers

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# Sony Ericsson Developer World

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On [www.sonyericsson.com/developer](http://www.sonyericsson.com/developer), developers will find documentation and tools such as phone White papers, Developers guidelines for different technologies, SDKs and relevant APIs. The Web site also contains discussion forums monitored by the Sony Ericsson Developer Support team, an extensive Knowledge Base, Tips & Tricks, example code and news.

Sony Ericsson also offers technical support services to professional developers. For more information about these professional services, go to the Sony Ericsson Developer World Web site.

## Document history

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### Change history

|            |           |               |
|------------|-----------|---------------|
| 2007-06-12 | Version 1 | First version |
|------------|-----------|---------------|

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# Product overview

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In a thin, stylish and exclusive slider design, the dynamic W908c takes games and music playing to the next level. The Walkman® player 3.0 offers fun and easy-to-use applications, helping the user to organize and discover music by mood, and to control the Walkman® player in a new way with the accelerometer shake control. Shake the phone to shuffle the music playlist, jump to another song, or control gaming functions. The power of the accelerometer and the dedicated gaming keys invite the user to new, playful and fun gaming experiences, further enhanced by the large, bright crystal screen. With PlayNow™ 4.0 and TrackID™ services, users are smoothly assisted in finding and downloading new music and games.

Features include:

- The latest Walkman® player with new features
- Shake control with music and gaming
- 3D gaming
- 2.36 inch bright crystal, high resolution screen
- The latest in GPRS EDGE technology for voice telephony
- 2 megapixel camera for pictures and video
- Easy-to-use horizontal digital camera menu
- Share video clips and full-size images via mobile blogging
- Web browser supporting HTML
- Web feeds
- FM radio with RDS and track identification
- A memory card slot for Memory Stick Micro™ (M2™) memory cards

The slim, sophisticated slider design of W908c boasts a high resolution screen, dedicated Walkman® control keys and gaming keys. Save video clips, pictures and music in the phone or by using the memory card slot, supporting up to 4 GB memory cards. A user-friendly media organizer helps the user to manage all media, such as video clips, pictures and music. The included Media manager software makes it easier to transfer and manage music, video clips, pictures and games between computer and phone. A USB cable is provided for you to synchronize or transfer files between phone and computer. A 1 GB Memory Stick Micro™ (M2™), a colour match memory card USB adapter and a stereo headset are also included.

Note: To provide continuously updated information about the implemented technology and functionality of this product, this White Paper will be released in updated revisions.

# Key features

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## Walkman® player 3.0

Located in Media, the Walkman® player converts the phone into a portable music player that supports AAC, AAC+, Enhanced ACC+, MP3, MP4, M4A, 3GP, AMR NB, AMR WB, WAV, S-MIDI, G-MIDI, RealAudio 8, WMA and Mobile XMF 1.0 audio formats. Access audio books and podcasts you have transferred from your computer. Smart lists, such as most played tracks and recently played tracks, are created automatically based on previous selections. Use SensMe™ to discover music by mood. The phone knows the mood of each song without having to enter information such as slow, fast, major, minor, acoustic, electric etc. Mark a song and a circle appears around this and encircles several other songs in the same mood creating a selection. No need to choose artist or album, just mood.

## Music recognition - TrackID™

Obtain title, artist and album information about songs you hear and like. Recording music from an external source, using the microphone. Or enter text to search for artist, track, album, lyrics and more.

## PlayNow™ 4.0

A unique and easy-to-use direct link for the downloading of content in the form of music files, games and images. You have access to a catalogue of more than 100,000 tracks from SonyBMG and other labels. For example, select PlayNow™ 4.0 and go straight to a live list of top music hits, available for full music track download. All formats that are supported by the phone will be supported. Music and images may be previewed before purchase. Payment methods include Google Checkout™ as well as premium SMS.

## Bluetooth™ audio streaming

Listen to audio in compatible devices. By connecting a Bluetooth A2DP compatible accessory, such as a stereo Bluetooth headset or a Bluetooth music receiver, you can enjoy high quality stereo audio streaming wirelessly from the phone. Many A2DP accessories also support the Bluetooth Audio Video Remote Control Profile (AVRCP) allowing you to control the Walkman® player in the phone using the accessory interface.

## Stereo widening

The Stereo Widening and Mega Bass™ effects improve the sound experience when listening to music through a stereo Bluetooth headset, external stereo speakers or stereo portable handsfree headsets.

## Shake control

Shake the phone to shuffle the playlist, jump to another song, or control gaming functions.

## 3D Gaming

Gaming is a very popular feature in mobile phones. Several premium quality 3D games are included in the phone at purchase. Shake the phone to control gaming functions. Tilt the phone forwards, backwards, left or right to accelerate, decelerate, turn left or turn right. Two action keys have been added to intensify the experience. With Java™, users can download new games and skill levels to further enhance their entertainment experience.

## Java™

Download additional applications which are information- and entertainment-based. This gives users a chance to personalize the functions and features in their phones, and developers the opportunity to create new applications. Java Platform 8 (JP-8), supports a range of new Java programming features including

instant messaging/chat and presence based functionality, handling banking, payment transactions, user identification and authentication through secure encryption technology.

### **2.36 inch colour screen**

The large 2.36 inch (240x320 pixels) full graphic QVGA 262k colour screen enhances viewing, facilitating high-quality multimedia and entertainment.

### **Media**

All media can be accessed directly from the desktop. Navigate seamlessly through captured photos and video clips, pictures, photo tags, music, videos and more.

### **Mobile TV**

Located in Media. View streaming video in Netchannels and organize your channels into favourites.

### **Video player**

Located in Media. Play stored and downloaded video clips.

### **2 Megapixel camera**

The main camera is 2 megapixel and includes 2.5x digital zoom with fixed focus, auto rotate and Photo fix to take quality pictures with ease. The horizontal user interface allows for easier camera handling. The main camera captures video clips with 4x digital zoom, and stores them in the phone or on a memory card. A picture or video clip can be shared as a picture message or email message with friends or family, or using any available transfer method, such as Bluetooth™. The phone supports QCIF size video recording.

### **Auto rotate**

Capturing a portrait photo with a horizontal camera, usually results in a picture which must be rotated manually when viewed later, in the phone. Auto rotate is a new feature, which enables W908c to register how the phone is oriented when the picture is taken, whether it is held in portrait or landscape mode. This information is saved with the picture. When viewed, the picture is automatically rotated and presented with the same orientation as it was originally taken.

### **Sony Ericsson Media Manager**

Music, photo and video clip management software is available on the CD which is included in the kit. Transfer music, videos and photos to and from your phone. Prepare files for transfer even when your phone is not connected to your computer. Search for and select music on your computer or audio CDs and convert your existing audio tracks to formats that are suitable for mobile use before transferring them to your phone. You can also subscribe to feeds such as video and music podcasts.

### **RDS FM Radio**

The FM radio with RDS (Radio Data System) offers instant and easy access to FM radio channels. The RDS function brings information directly to the screen, which is sent out by the currently tuned in radio station. Just plug in the handsfree that works as an antenna and start listening to desired music. The radio can also be used as an alarm signal.

### **Memory card reader**

The extra memory slot supports memory cards up to 4 GB. Different kinds of content (pictures, audio, video clips, etc.) can be stored on memory cards, and transferred to other memory cards – compatible

consumer products, for example Sony digital cameras, camcorders, portable music players, TVs, photo printers and computers.

### **Media Transfer Protocol (MTP)**

With Media Transfer Protocol you can transfer media files and synchronize playlists when the phone is connected to the computer via the USB cable. It is possible to use MTP in Media transfer mode or Phone mode. MTP is supported by Windows Media Player 10 and 11 in Windows XP and in Windows Vista it is also supported.

### **Common Internet File System (CIFS)**

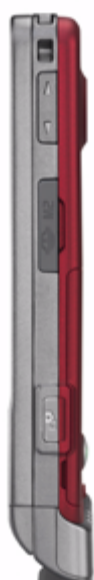
The Common Internet File System enables file transfer to and from your phone. The phone acts as a file server which allows you to copy and move files between your PC and the server. You can use this feature when connected via the USB cable or the Bluetooth connection.



# Images

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# Technologies in detail

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This chapter includes short descriptions of the technologies available in this product compared to other Sony Ericsson products.

# Functions and features

The following includes short descriptions of the technologies available in W908c compared to W850 and W950.

| Feature  | W908c  | W850   | W950                            |
|--|--|--|---------------------------------|
| <b>3D games</b>  | Yes  | Yes  | Yes                             |
| <b>Activity menu (multi-tasking)</b><br>The user can easily handle missed calls, new text and picture messages, task reminders, shortcuts and get quick access to favourite Internet bookmarks | Yes with enhanced functionality for background applications.         | Yes with enhanced functionality for background applications.         | Yes                             |
| <b>Alarm clock</b><br>Set up to five individual times for single or recurring weekly alarms  | Yes  | Yes  | Yes                             |
| <b>Auto rotate</b><br>The picture appears as a landscape or portrait picture, as it was originally taken   | Yes  | No   | No                              |
| <b>Backlight</b><br>White backlight to illuminate the phone screen   | Yes  | Yes  | Yes                             |
| <b>Battery</b>   | BST-39 3.6V, 920mAh, Lithium Ion                                     | 3.6V, 900mAh, Lithium Polymer  | BST-33, 900mAh                  |
| <b>Battery charging time</b>   | At least 90% charged within 2 hours. Fully charged within 2.5 hours. | At least 90% charged within 2 hours. Fully charged within 2.5 hours. | Fully charged within 2.5 hours. |
| <b>Bluetooth™ audio streaming</b><br>Listen to audio in compatible devices   | Yes  | Yes  | Yes                             |
| <b>Bluetooth™ audio video remote control</b><br>Control music player functions from a Bluetooth™ accessory, and control the volume in the accessory from the phone                             | Yes  | Yes  | Yes                             |
| <b>Bluetooth™ PAN</b><br>Connect the phone to Internet using Bluetooth™  | Yes  |  |                                 |


| Feature  | W908c          | W850           | W950 |
|--|----------------|----------------|------|
| <b>Bluetooth™ wireless technology</b><br><br>Wireless connectivity between devices.<br>Support for specification of the Bluetooth System, version 2.0  | Yes            | Yes            | Yes  |
| <b>Business card exchange</b><br><br>Exchange contact information  | Yes            | Yes            | Yes  |
| <b>Calculator</b>  | Yes            | Yes            | Yes  |
| <b>Calendar</b><br><br>Calendar with day, week and month views and reminders   | Yes            | Yes            | Yes  |
| <b>Call list</b><br><br>View calls made and received   | Yes            | Yes            | Yes  |
| <b>Camera</b>  | 2 Megapixel    | 2 Megapixel    | No   |
| <b>Camera key</b><br><br>A dedicated camera key. Press and hold to activate the integrated camera  | Yes            | Yes            | No   |
| <b>Camera file browser</b><br><br>Browse the picture folder without leaving the camera function  | Yes            | Yes            | No   |
| <b>Camera keys on top</b><br><br>When the camera is used in horizontal mode, the side keys with camera functionality are on top, for a digital still camera feel. For photo key functionality, see also “Keys - side and other” on page 18 | Yes            | Yes            | No   |
| <b>Camera menu</b><br><br>Easy-to-use horizontal digital camera menu   | Yes            | Yes            | No   |
| <b>Chinese input method</b><br><br>Chinese input methods: Text input methods based on Simplified or Traditional Chinese. Bopomofo, Pinyin or Stroke  | Yes            | Yes            | Yes  |
| <b>Clock</b><br><br>On-screen clock  | Yes            | Yes            | Yes  |
| <b>Co-branding area</b>  | 47.4 × 6.75 mm | 21.8 x 6.51 mm |      |


| Feature  | W908c                                   | W850                                    | W950          |
|--|---|---|---------------|
| <b>Code memo</b><br><br>A safe place to store all PIN codes and other information. To access Code memo, only one PIN code is needed  | Yes                                     | Yes                                     | Yes           |
| <b>Colour</b><br><br>  | Noble Black<br>Hearty Red               | Precious Black<br>Golden White          | Mystic Purple |
| <b>Contacts</b><br><br>Phonebook with fields for name, phone and fax numbers, email address, Web site, title, company address info, personal address info and birthday   | Yes                                     | Yes                                     | Yes           |
| <b>Conference calls</b><br><br>Support for multiparty calling  | Yes                                     | Yes                                     | Yes           |
| <b>Connector A1 (Fast port)</b><br><br>  | Yes (side)                              | Yes (bottom)                            | Yes (bottom)  |
| <b>Content online</b><br><br>Downloadable pictures, games, themes, ringtones available online  | Yes                                     | Yes                                     | Yes           |
| <b>Copyright protection - DRM</b><br><br>DRM (Digital Rights Management) features the rights and copy protection of downloaded content (audio, pictures, music tones, video, entertainment features such as games, Java applications etc)  | Yes, OMA DRM 1.0 and OMA DRM 2.0        | Yes                                     | Yes           |
| <b>Design</b><br><br>  | Slider form                             | Slider form                             | Stick form    |
| <b>Device Management (DM)</b><br><br>DM utilizes GPRS as a bearer (basic network connectivity needs to be in place) of the provisioning data and allows the operator to access the phone and check and send out different settings such as network connectivity (GPRS), email, MMS, WAP and Java™. Device Management is achieved by supporting OMA Client Provisioning 1.1 (CP) and OMA Device Management (DM) 1.2 | Yes                                     | Yes                                     | Yes           |
| <b>Digital zoom</b><br><br>  | 2.5x for pictures<br>4x for video clips | 2.5x for pictures<br>4x for video clips | No            |
| <b>Email</b><br><br>Built-in email client with inbox, outbox, compose/send and other functions   | Yes                                     | Yes                                     | Yes           |

| Feature   | W908c            | W850         | W950             |
|---|------------------|--------------|------------------|
| <b>EMS (Enhanced messaging)</b><br><br>Text messaging (SMS) with support for pictures and sounds  | Yes              | Yes          | Yes              |
| <b>Exterior description</b><br><br>Size mm (Length x width x thickness/thinnest)  | 99.5 x 50 x 12.5 | 98 x 47 x 21 | 106 x 54 x 15    |
| <b>Fast port</b><br><br>A system connector which enables faster data transfer between the phone and a computer  | Yes (side)       | Yes (bottom) | Yes (bottom)     |
| <b>File manager</b><br><br>Folder structure storage to help store and organize pictures, sounds and other phone content   | Yes              | Yes          | Yes              |
| <b>Flight mode</b><br><br>All phone radio transceivers are inactivated. Flight mode starts the phone so that only certain functions are available, such as the calendar, music player or a game. The phone may then be used in some areas, such as aeroplanes or hospitals, where full mobile phone functionality is not allowed<br><br>Bluetooth™ function availability in Flight mode | Yes<br><br>Yes   | Yes          | Yes              |
| <b>FM radio with RDS</b><br><br>FM radio with presets, auto and manual search. The handsfree is used as an antenna. The radio can also be used as an alarm signal   | Yes              | Yes          | Yes              |
| <b>FM radio with TrackID™</b><br><br>Identify tracks playing on the radio   | Yes              | Yes          | Yes              |
| <b>Form factor</b>  | Slider           | Slider       | Monolithic Stick |
| <b>Games download</b><br><br>Replace in-phone games with new ones   | Yes              | Yes          | Yes              |
| <b>Games embedded</b>   | Yes              | Yes          | Yes              |

| Feature  | W908c  | W850   | W950   |
|--|--|--|--|
| <b>GPRS</b><br><br>General Packet Radio Services - a communications standard enabling packet data transfer of 21.4 Kbps per time slot. Multislot class 10 supported (max 5 simultaneously)   | Yes  | Yes  | Yes  |
| <b>Icon Desktop 12</b><br><br>A graphic icon desktop with 12 interactive icons   | Yes  | Yes  | Yes  |
| <b>Image formats</b><br><br><b>2 MP</b> (1600x1200 pixels)<br><br><b>1 MP</b> (1280x960 pixels)<br><br><b>VGA</b> (640x480 pixels)<br><br>Note: MP = Megapixel   | <br><br><br><br><br>Yes<br>Yes<br>Yes        | <br><br><br><br><br>Yes<br>Yes<br>Yes              | N/A  |
| <b>Instant messaging (Wireless Village/My friends)</b><br><br>Chat - several people can take part in a mobile messaging session. Instant messaging/Wireless Village server community   | Yes  | Yes  | No   |
| <b>Internet blogging</b><br><br>Share up to full-size pictures over the Internet on your personal Web page. The size of uploaded pictures is dependent on customizations   | Yes  | Yes  | No   |
| <b>Internet browser</b><br><br>cHTML - A mobile device adapted version of the standard Internet communications protocol HTML<br><br>Full HTML support, ECMA script, DOM level 1& 2, etc.)<br><br>Progressive download of video files<br><br>Direct access to Search Internet and Enter address | <br><br><br><br><br>Yes<br>Yes<br>Yes<br>Yes | <br><br><br><br><br>Yes<br>Yes<br>Yes<br>Yes<br>No | <br><br><br><br><br>Yes<br>Yes<br>Yes<br>Yes |



| Feature  | W908c  | W850   | W950  |
|--|--|--|---|
| <b>Internet security</b><br><br>Encrypts confidential information such as credit card and bank account numbers.<br>Necessary for mobile banking and shopping   | Yes, SSL/TLS   | Yes, SSL/TLS   | Yes   |
| <b>Java™</b><br><br>Support for J2ME™ technology<br><br>Java Platform 8 (JP-8)<br>Support for new Java programming features including instant messaging/chat, banking, payment transactions, user identification and authentication through secure encryption technology | Java 2, Micro Edition (J2ME™), Java 3D™<br><br>Yes   | Java 2, Micro Edition (J2ME™), Java 3D™<br><br>No  | Java 2, Micro Edition (J2ME™), Java 3D™<br><br>No                                 |
| <b>Keys - navigation and more</b><br><br>  | 8+1 navigation key<br><br>multimedia (play/stop) on navigation key center<br><br>2 selection keys<br><br>C (Clear) key<br><br>Activity menu key<br><br>Red end key<br><br>Green call key | 8+1 navigation key<br><br>multimedia (play/stop) on navigation key center<br><br>2 selection keys<br><br>Back key<br><br>C (Clear) key<br><br>Activity menu key<br><br>Walkman® key<br><br>Internet/operator key | Touch screen<br><br><br><br><br><br><br>C (Clear) key<br><br><br><br>Walkman® key |
| <b>Keys - keypad</b>   | 12 alphanumeric  | 12 alphanumeric  | 12 alphanumeric   |

| Feature  | W908c  | W850  | W950  |
|--|--|---|---|
| <b>Keys - side and other</b>   | volume/camera zoom key<br><br>Walkman® key on top<br><br>separate on/off key<br><br>camera key<br><br>A/B gaming keys. A/B keys using the camera (landscape orientation):<br>Upper key:<br>- camera shoot mode<br>- video clip length<br>Lower key:<br>- night mode on/off | volume/camera zoom key<br><br><br><br><br>separate on/off key<br><br>camera key | volume key<br><br>multimedia (play/stop) key<br><br>back key<br><br>separate on/off key<br><br>Jog Dial |
| <b>Lunar calendar</b><br><br>A calendar system used in China and other parts of Asia. A lunar month is determined by the period required for the moon to complete its full cycle of 29.5 days and is available in Chinese phone variants | Yes  |   |   |
| <b>Macromedia® Flash Lite™</b><br><br>For impressive animated wallpapers, menus and other graphic elements   | Yes  | Yes   | Yes   |
| <b>Media</b><br><br>A center for all media content with sideways navigation and a string of pearls look and feel. You can view photos and video clips, listen to music   | Yes  | No  | No  |
| <b>Media player</b>  | See Walkman® player and Video player   | See Walkman® player and Video player  | See Walkman® player and Video player  |

| Feature  | W908c                | W850                 | W950               |
|--|----------------------|----------------------|--------------------|
| <b>Mega Bass™</b><br><br>An audio feature which enhances bass frequencies for better overall music experience  | Yes                  | Yes                  | Yes                |
| <b>Memory (built-in)</b><br><br>Phone memory that is free to use (depending on software configuration/file content). Many applications share phone memory. The maximum amount of storage available for any one application, such as calendar entries, is affected by the amount of memory used by other applications, such as messaging, music, pictures and so on | Up to 40 MB          | Up to 16 MB          | Up to 4 MB         |
| <b>Memory card reader (slot)</b><br><br>A slot for inserting a micro peripheral storage device<br><br>Memory card support:<br>Memory Stick Micro™ (M2™)<br>Memory Stick PRO Duo™   | Yes<br><br>Yes<br>No | Yes<br><br>No<br>Yes | No<br><br>No<br>No |
| <b>Menu shortcuts</b><br><br>A function making it possible to dedicate shortcuts to the most-used phone functions  | Yes                  | Yes                  | Yes                |
| <b>MMS (Multimedia messaging)</b><br><br>Picture messaging with text and sound   | Yes                  | Yes                  | Yes                |
| <b>MMS video</b><br><br>Support in the phone for sending video using MMS   | Yes                  | Yes                  | Yes                |
| <b>Modem</b><br><br>Circuit Switched/Packet Switched Internet dial-up support  | Yes                  | Yes                  | Yes                |
| <b>MusicDJ™</b><br><br>A sampler music tool with MIDI drum, guitar, keyboard, bass and brass loops in different music styles, which can be combined to create polyphonic ringtones   | Yes                  | Yes                  | Yes                |
| <b>Music listening time</b>  | Up to 20 hours       |                      |                    |

| Feature   | W908c                                      | W850                                 | W950                                 |
|---|--|--------------------------------------|--------------------------------------|
| <b>Music tones</b><br><br>Music tones, also called master tones, are DRM protected music by original artists. Various digital audio formats are supported | Yes  | Yes                                  | Yes                                  |
| <b>My friends</b><br><br>See Instant messaging  | Yes  | Yes                                  | Yes                                  |
| <b>Networks</b><br><br>GSM/GPRS/EDGE  | GSM (R99), 850, 900, 1800, 1900, E-GSM 900 | GSM (R99) 900, 1800, 1900, E-GSM 900 | GSM (R99) 900, 1800, 1900, E-GSM 900 |
| <b>OMA Data Synchronization (SyncML)</b><br><br>A device communications standard that enables remote synchronization between devices                      | Yes<br><br>SyncML 1.2<br>SyncML 1.1        | Yes<br><br>SyncML 1.2<br>SyncML 1.1  | Yes                                  |
| <b>OTA settings</b><br><br>Internet, email and other settings can be sent over the air to the phone   | Yes  | Yes                                  | Yes                                  |
| <b>PhotoDJ™</b><br><br>A drawing tool in the phone where existing pictures can be altered   | Yes  | Yes                                  | Yes                                  |
| <b>Photo fix</b><br><br>Improves an under-exposed picture by calculating and adjusting the light balance  | Yes  | No                                   | No                                   |
| <b>PictBridge</b><br><br>Transfer images from the phone via USB cable directly to a printer, without a computer or photo editing software                 | Yes  | Yes                                  |                                      |
| <b>Picture gallery</b><br><br>A thumbnail image gallery where sections of several pictures can be viewed at the same time                                 | Yes<br><br>Use photo tags                  | Yes                                  | Yes                                  |
| <b>Picture phonebook</b><br><br>Add a picture to a stored contact. The picture appears on the screen when the stored contact calls                        | Yes  | Yes                                  | Yes                                  |

| Feature   | W908c   | W850   | W950   |
|---|---|--|--|
| <b>PlayNow™ (direct link)</b><br><br>Listen to music before you purchase and download to your phone   | Yes   | Yes  | Yes  |
| <b>PlayNow™ Games (direct link)</b><br><br>Download and purchase games straight from the phone desktop  | Yes   | Yes  | Yes  |
| <b>Polyphonic voices</b>  | 72  | 40   | 40   |
| <b>Predictive text input</b>  | Yes   | Yes  | Yes  |
| <b>Push email</b>   | Yes   | Yes  | Yes  |
| <b>RSS Reader</b>   | See Web feeds   | See Web feeds  | See Web feeds  |
| <b>Screen</b><br><br>Type:<br>Size:<br>Resolution:<br>Technology:<br>Colours displayed together:<br>Backlight colour:   | Full graphical<br>2.36 inches<br>320 x 240 pixels<br>TFT, QVGA<br>262,000 (18 bit)<br>White | Full graphical<br>2.0 inches<br>320 x 240 pixels<br>TFT, QVGA<br>262,000 (18 bit)<br>White | Full graphical<br>2.6 inches<br>320 x 240 pixels<br>TFT, QVGA<br>262,000 (18 bit)<br>White |
| <b>Screen saver</b>   | Yes   | Yes  | Yes  |
| <b>Settings download (Ready to run)</b><br><br>Set up functions, such as the Internet browser and picture messaging, that require a connection to the Internet.<br>This function runs in the setup wizard or can also be chosen in the Settings menu. This function is not included in the setup wizard for customized phones | Yes   | Yes  | Yes  |
| <b>Shake control</b><br><br>Shake control for music and gaming  | Yes   | No   | No   |
| <b>SIM card lock</b><br><br>The possibility to protect the SIM card with a four-digit PIN code  | Yes   | Yes  | Yes  |
| <b>SMS long (Text messaging)</b><br><br>Concatenated SMS text messaging   | Yes   | Yes  | Yes  |

| Feature  | W908c                 | W850                  | W950                    |
|--|-----------------------|-----------------------|-------------------------|
| <b>Sleep mode</b><br><br>A power-saving feature that minimizes battery power consumed when the phone is in standby   | Yes                   | Yes                   | Yes                     |
| <b>Sony Ericsson Remote Update Service</b><br><br>Download the latest operator-approved software, over the air, for your mobile phone  | Yes                   | Yes                   | No                      |
| <b>Sony Ericsson Update Service</b><br><br>Connect the phone to an Internet-connected computer, download the latest operator-approved software from the web, <a href="http://www.sonyericsson.com/support">www.sonyericsson.com/support</a> and update the mobile device | Yes                   | Yes                   | Yes                     |
| <b>Sound recorder</b><br><br>A recording device in the phone that can record voice messages or other sounds  | Yes                   | Yes                   | Yes                     |
| <b>Speakerphone</b>  | Yes                   | Yes                   | Yes                     |
| <b>Speed dialling</b><br><br>Allocate contacts in the phone book to specific keys on the keypad  | Yes                   | Yes                   | Yes                     |
| <b>Standby time</b>  | Up to 400 hours       | Up to 350 hours       | Up to 340 hours         |
| <b>Status view</b><br><br>The screen shows the network being used, the time and other status information   | Yes                   | Yes                   | Yes                     |
| <b>Stopwatch</b>   | Yes                   | Yes                   | Yes                     |
| <b>SVG Tiny</b><br><br>Scalable Vector Graphics for impressive animated wallpapers, menus and other graphic elements   | Yes<br>SVG Tiny 1.2   | Yes<br>SVG Tiny 1.1   | Yes                     |
| <b>Synchronization PC</b><br><br>Synchronize and share phone content with a computer   | Yes                   | Yes                   | Yes                     |
| <b>Talk time</b><br><br>GSM  | Up to:<br><br>9 hours | Up to:<br><br>7 hours | Up to:<br><br>7.5 hours |

| Feature   | W908c               | W850 | W950 |
|---|---------------------|------|------|
| <b>Tasks</b>  | Yes                 | Yes  | Yes  |
| Keeps track of important things you have to do  |                     |      |      |
| <b>Themes</b>   | Yes                 | Yes  | Yes  |
| Phone menu texts and background graphics  |                     |      |      |
| <b>Timer</b>  | Yes                 | Yes  | Yes  |
| Set the phone to alert after a specific time  |                     |      |      |
| <b>TrackID</b>  |                     |      |      |
| Music recognition   | Yes                 | Yes  | Yes  |
| Text search for artist, album, track, lyrics etc  | Yes                 | No   | No   |
| <b>USB connectivity support</b>   | Yes                 | Yes  | Yes  |
| Connect the phone to a computer with the USB cable provided and the memory in the phone appears on the computer screen as a mass storage device | USB 2.0<br>Hi-Speed |      |      |
| <b>USB ethernet emulation</b>   | Yes                 |      |      |
| Connect to the Internet via the phone or the computer   |                     |      |      |
| <b>Vibrating alert</b>  | Yes                 | Yes  | Yes  |
| The phone vibrates when a call comes in   |                     |      |      |
| <b>Video blogging</b>   | Yes                 | No   | No   |
| Share video clips over the Internet on your personal Web page. The size of uploaded video clips is dependent on customizations                  |                     |      |      |
| <b>VideoDJ™</b>   | Yes                 | Yes  | Yes  |
| Create video sequences by combining different clips and adding music and images   |                     |      |      |
| <b>Video player</b>   | Yes                 | Yes  | Yes  |
| Play video clips you have transferred or downloaded. Transfer video clips to another phone or a computer via available transfer method          |                     |      |      |

| Feature  | W908c | W850 | W950 |
|--|-------|------|------|
| <b>Video streaming</b><br><br>Real-time streaming of video, for example, live cam. Media can also be downloaded and saved in the phone memory  | Yes   | Yes  | Yes  |
| <b>Viewfinder</b><br><br>When using the camera, a picture can be previewed before it is captured   | Yes   | Yes  | N/A  |
| <b>Voice control</b><br><br>Voice answer, reject and call. Assign voice commands to items in the phonebook and when a call is made, the voice command can be used instead of pressing keys   | Yes   | Yes  | Yes  |
| <b>Voicemail</b><br><br>Support for voicemail operator service including automatic answering and message recording   | Yes   | Yes  | Yes  |
| <b>Walkman® key</b><br><br>Get direct access to you music files without having to browse the menus. Press the Walkman® key to gain direct access to the Walkman® player  | Yes   | Yes  | Yes  |
| <b>Walkman® player 3.0</b><br><br>A digital music player with sideways navigation and a string of pearls look and feel. Play music you have transferred or downloaded. Play music files in the folder system, organize your favourite tracks into groups and create various playlists. A practical play/stop function makes it easier to listen to music any time, anywhere. You can also manage settings and more | Yes   | No   | No   |
|  |       |      |      |
| <b>WAP 1.2.1</b><br><br>A mobile Internet standard to access specially designed Internet sites   | Yes   | Yes  | Yes  |



| Feature   | W908c | W850  | W950  |
|---|-------|-------|-------|
| <b>WAP 2.0 XHTML</b><br><br>A mobile Internet standard to access specially designed Internet sites. WAP 2.0 supports colour and interactive lists | Yes   | Yes   | Yes   |
| <b>Web feeds</b><br><br>Frequently updated content delivered as feeds via a Web site, for example, news headlines in the browser                  | Yes   | Yes   | Yes   |
| <b>Weight</b>   | 86 g  | 118 g | 112 g |

# Facts and figures

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This chapter offers readers a detailed listing of all the technical data relating to the product. Comprehensive descriptions of performance and technical characteristics are presented in table format for quick and easy access.

# Technical specifications

## General technical data

|                      |  |
|----------------------|--|
| System               | Quad-band GSM Release 99 recommendations, GSM-850 GSM 900, e-GSM 900, GSM 1800, GSM 1900                         |
| Speech coding        | FR, EFR, AMR supported where available, for high speech quality.   |
| GSM SIM              | GSM SIM - GSM 11.11.<br>Small plug-in card, 1,8 V and 3 V.   |
| Memory               | Up to 40 MB internal (depending on software configuration/file content) + extra slot for supported memory cards. |
| Data transfer speeds | Up to 384 Kbps (downlink)<br>Up to 384 Kbps (uplink)   |

## Performance and technical characteristics

| Dimension   | GSM 850                                       | GSM 900/<br>E-GSM 900                         |
|---|---|---|
| Frequency range (MHz)   | TX: 824–849<br>RX: 869–894                    | TX: 880–915<br>RX: 925–960                    |
| Channel spacing   | 200 kHz                                       | 200 kHz                                       |
| Number of channels  | 124 Carriers *8 (TDMA)                        | 174 Carriers *8 (TDMA)                        |
| Modulation  | GMSK, 8PSK                                    | GMSK, 8PSK                                    |
| TX Phase Accuracy   | < 5° RMS Phase error (burst)                  | < 5° RMS Phase error (burst)                  |
| Duplex spacing  | 45 MHz  | 45 MHz  |
| Frequency stability   | +/- 0.1ppm                                    | +/- 0.1ppm                                    |
| Voltage operation (nominal)                                   | 3.6 V   | 3.6 V   |
| Transmitter RF power output                                   | 33 dBm Class 4<br>(2 W peak)                  | 33 dBm Class 4<br>(2 W peak)                  |
| Transmitter Output impedance                                  | 50 ohm  | 50 ohm  |
| Transmitter Spurious emission<br>(according to specification) | < -36 dBm up to 1 GHz<br>< -30 dBm over 1 GHz | < -36 dBm up to 1 GHz<br>< -30 dBm over 1 GHz |
| Receiver RF sensitivity                                       | Better than – 102 dBm                         | Better than – 102 dBm                         |
| Receiver RX Bit error rate                                    | < 2.4%  | < 2.4%  |

| Dimension   | GSM 1800                       | GSM 1900                     |
|---|--------------------------------|------------------------------|
| Frequency range (MHz)   | TX: 1710–1785<br>RX: 1805–1880 | TX:1850–1910<br>RX:1930–1990 |
| Channel spacing   | 200 kHz                        | 200 kHz                      |
| Number of channels  | 374 Carriers *8 (TDMA)         | 299 Carriers *8 (TDMA)       |
| Modulation  | GMSK, 8PSK                     | GMSK, 8PSK                   |
| TX Phase Accuracy   | < 5° RMS Phase error (burst)   | < 5° RMS Phase error (burst) |
| Duplex spacing  | 95 MHz                         | 80 MHz                       |
| Frequency stability   | +/- 0.1ppm                     | +/- 0.1ppm                   |
| Voltage operation (nominal)                                   | 3.6 V                          | 3.6 V                        |
| Transmitter RF power output                                   | 30 dBm Class 1<br>(1 W peak)   | 30 dBm Class 1<br>(1 W peak) |
| Transmitter Output impedance                                  | 50 ohm                         | 50 ohm                       |
| Transmitter Spurious emission<br>(according to specification) | < - 30 dBm                     | < - 30 dBm                   |
| Receiver RF sensitivity                                       | Better than – 102 dBm          | Better than – 102 dBm        |
| Receiver RX Bit error rate                                    | < 2.4%                         | < 2.4%                       |

## USSD technical data

| Feature         | Support   |
|-----------------|---|
| USSD support    | GSM Phase 1/2 (Cross-phase compatibility)   |
| Mode support    | UI-mode supported<br>SAT initiated USSD supported   |
| UI-mode details | <ul style="list-style-type: none"> <li>It is possible to scroll the text up and down in USSD messages.</li> <li>It is possible to highlight embedded numbers and take actions accordingly.</li> </ul> |

## GPRS technical data

| Dimension                              | Support  |
|--|--|
| Compatible GPRS and SMG specifications | Release 99 according to ETSI specification   |
| Data rates                             | Multislot class 10 supported (max 5 simultaneously)<br>CS-1, CS-2, CS-3, CS-4<br>9,050 bps, 13,400 bps, 15,600 bps, 21,400 bps supported<br>(network-dependent). |

| <b>Dimension</b>                                 | <b>Support</b>  |
|--|---|
| Medium Access Modes                              | Dynamic allocation  |
| Support of Packet Control Channels (PBCCH/PCCCH) | Yes   |
| Network operation mode                           | NOM I, II, III  |
| Support of GPRS/CS combined procedures           | Yes   |
| Network control mode                             | NC0 and 2   |
| Support of access in 2 phases                    | Yes   |
| Support of PRACH on 11 bits                      | Yes   |
| Support of GPRS re-selection C31/C32             | Yes   |
| Support of static and dynamic addressing         | Yes   |
| Support of power control Uplink and Downlink     | Uplink = yes, Downlink is a network feature.  |
| Support of ciphering algorithms                  | GEA1, GEA2, GEA3  |
| Support of compression algorithms                | Yes, V42bis and IP header compression.  |
| Mode of operation                                | Class B and Class C modes of operation supported.   |
| R Reference point                                | Physical layer: Support of RS232<br>PPP is supported as L2 layer in the R reference point<br>Authentication algorithms PAP, CHAP supported  |
| IP connectivity                                  | PDP type IP is supported<br>IP termination in mobile or TE (laptop, PDA) supported  |
| PDP context                                      | 10 PDP context descriptions stored in mobile<br>PDP context description is edited via application in mobile, AT-command or via OTA<br>Simultaneous PDP contexts are supported, maximum 4.   |
| SIM  | GPRS aware, as well as non-GPRS aware; SIM cards are supported.   |
| AT commands                                      | Some of the supported commands:<br>AT+CGDCONT - DEFINE PDP CONTEXT<br>AT+CGEQREQ - Quality of Service Profile (REQUESTED)<br>AT+CGEQMIN - Quality of Service Profile (Minimum Acceptable)<br>AT+CGATT - PACKET DOMAIN SERVICE ATTACH OR DETACH<br>AT+CGACT - PDP CONTEXT ACTIVATE OR DEACTIVATE<br>AT+CGDATA - ENTER DATA STATE<br><br>For more information, see <a href="http://www.sonyericsson.com/developer">www.sonyericsson.com/developer</a> . |

## SIM AT services supported

| Service              | Mode  | Support    |
|----------------------|---|------------|
| CALL CONTROL BY SIM  |   | Yes        |
| MO SMS CONTROL       |   | No         |
| DATA DOWNLOAD TO SIM | Cell Broadcast<br>SMS   | Yes<br>Yes |
| DISPLAY TEXT         | Text of up to 240 characters (120 UCS2 coded).  | Yes        |
|                      | bit 1: 0 = normal priority  | Yes        |
|                      | 1 = high priority   | Yes        |
|                      | bit 8: 0 = clear message after a delay  | Yes        |
|                      | 1 = wait for user to clear message  | Yes        |
| GET INKEY            | General: The GET_INKEY requires that the user confirms his/her choice                           | Yes        |
|                      | bit 1: 0 = digits (0-9, *, # and +) only  | Yes        |
|                      | 1 = alphabet set  | Yes        |
|                      | bit 2: 0 = SMS default alphabet   | Yes        |
|                      | 1 = UCS2 alphabet   | Yes        |
|                      | bit 3: 0 = character sets defined by bit 1 and bit 2 are enabled                                | Yes        |
|                      | 1 = character sets defined by bit 1 and bit 2 are disabled and the Yes/No response is requested | Yes        |
| GET INPUT            | General: No. of hidden input characters   | 252        |
|                      | bit 1: 0 = digits (0-9, *, # and +) only  | Yes        |
|                      | 1 = alphabet set  | Yes        |
|                      | bit 2: 0 = SMS default alphabet   | Yes        |
|                      | 1 = UCS2 alphabet   | Yes        |
|                      | bit 3: 0 = phone may echo user input on the screen  | Yes        |
|                      | 1 = user input not to be revealed in any way (see note)   | Yes        |
|                      | bit 4: 0 = user input to be in unpacked format  | Yes        |
|                      | 1 = user input to be in SMS packed format   | Yes        |
|                      | bit 8: 0 = no help information available  | Yes        |
|                      | 1 = help information available  | Yes        |
| LAUNCH BROWSER       |   | Yes        |
| MORE TIME            |   | Yes        |

| Service                   | Mode   | Support |
|---------------------------|--|---------|
| PLAY TONE                 |  | Yes     |
| POLLING OFF               |  | Yes     |
| POLL INTERVAL             |  | Yes     |
| PROVIDE LOCAL INFORMATION | '00' = Location Information (MCC, MNC, LAC and Cell Identity)                | Yes     |
|                           | '01' = IMEI of the phone   | Yes     |
|                           | '02' = Network Measurement results   | Yes     |
|                           | '03' = Date, time and time zone (DTTinPLI)                                   | Yes     |
|                           | '04' - Language setting  | Yes     |
|                           | '05' - Timing advance  | Yes     |
| REFRESH                   | General: The reset option requests the user to wait while the phone restarts | Yes     |
|                           | '00' = SIM Initialization and Full File Change Notification                  | Yes     |
|                           | '01' = File Change Notification  | Yes     |
|                           | '02' = SIM Initialization and File Change Notification                       | Yes     |
|                           | '03' = SIM Initialization  | Yes     |
|                           | '04' = SIM Reset   | Yes     |
| SELECT ITEM               |  | Yes     |
| SEND DTMF                 |  | Yes     |
| SEND SHORT MESSAGE        | bit 1: 0 = packing not required<br>1 = SMS packing by the phone required     | Yes     |
|                           |  | Yes     |
| SEND SS                   |  | Yes     |
| SEND USSD                 |  | Yes     |

| Service               | Mode   | Support                         |
|-----------------------|--|---------------------------------|
| SET UP CALL           | General: Capability configuration  | Yes                             |
|                       | Set-up speech call CallParty   | No                              |
|                       | Subaddress DTMF support  | Yes                             |
|                       | '00' = set up call, but only if not currently busy on another call               | Yes                             |
|                       | '01' = set up call, but only if not currently busy on another call, with re-dial | Yes                             |
|                       | '02' = set up call, putting all other calls (if any) on hold                     | Yes                             |
|                       | '03' = set up call, putting all other calls (if any) on hold, with re-dial       | Yes                             |
| SET UP EVENT LIST     | '04' = set up call, disconnecting all other calls (if any)                       | Yes                             |
|                       | '05' = set up call, disconnecting all other calls (if any), with re-dial         | Yes                             |
|                       | '00' = MT call   | Yes                             |
|                       | '01' = Call connected  | Yes                             |
|                       | '02' = Call disconnected   | Yes                             |
|                       | '03' = Location status   | Yes                             |
|                       | '04' = User activity   | Yes                             |
|                       | '05' = Idle screen available   | Yes                             |
|                       | '06' = Card reader status  | Not Applicable                  |
|                       | '07' = Language selection  | Yes                             |
| SET UP IDLE MODE TEXT | '08' = Browser termination   | Yes                             |
|                       | '09' = Data available  | No                              |
|                       | '0A' = Channel status  | No                              |
|                       |  | Yes, 1 row of text is supported |
| SET UP MENU           |  | Yes                             |
| TIMER MANAGEMENT      |  | Yes                             |
| OPEN CHANNEL          |  | Yes                             |
| CLOSE CHANNEL         |  | Yes                             |
| RECEIVE DATA          |  | Yes                             |



| Service            | Mode | Support |
|--------------------|------|---------|
| SEND DATA          |      | Yes     |
| GET CHANNEL STATUS |      | Yes     |

## User Interaction with SIM AT

### Display text

Text of up to 240 characters (120 UCS coded) is supported.

Text clearing times are 5-20 seconds with a 60-second time-out limit for the user to clear the text. 'Key' responses:

- 'End key' – Proactive session terminated by user.
- 'Back' – Backward move in proactive session.

Any other key clears the screen if the command is performed successfully.

### Get inkey

Prompt for a one-character input. Pressing 'Ok' without entering a character gives warning message "Minimum 1 character". 'Key' responses:

- 'C' clears current character.
- 'End key' terminates the proactive session.
- 'Back' – Backward move in proactive session.
- 'OK' – Command performed successfully.

### Get input

Prompt for character input. The phone will refuse to accept further input when maximum response length is exceeded. UI Maximum Response lengths:

- Digits Only – 160 characters.
  - SMS default alphabet characters – 160 characters.
  - Hidden Characters (digits only) – 20 characters.
- 'Key' responses:

- 'C' clears current character.
- 'End key' terminates the proactive session.
- 'Back' – Backward move in proactive session.
- 'OK' – Command performed successfully.

### Select item

Scroll to highlight item for selection. 'Key' responses:

- Navigational key press down – Scroll down list.
- Navigational key press up – Scroll up list.
- 'End key' terminates proactive session.
- 'Back' – Backward move in proactive session.
- 'OK' – Command performed successfully.

### Send short message

Default message "Sending message, please wait" can be replaced for the Alpha Identifier text, or suppressed completely if a null text is provided. Default responses are "MESSAGE FAILED" or "MESSAGE SENT". 'Key' responses:

- 'End key' or 'Back' ends the proactive session.

### Set up call

If you are on a call when the commands 'Set up Call', 'putting all other calls on hold' are sent, the user will see the text 'Setting up a call current call will be held'. If 'OK' is pressed the current call will be put on hold and the new call set up. If the phone is on a call when the command 'Set Up Call, disconnecting all other calls' is sent, the user will see the text 'Setting up a call current call will be disconnected'. If the 'OK' key is pressed the current call will be disconnected and the new call set up.

### Set up menu

Incorporates a SIM Application Toolkit Menu Item into the phone's main menu structure.

If an Alpha Identifier is supplied in the Set Up Menu command, this is used as the SIM AT entry in the phone's main menu. If no alpha identifier is supplied and several items are found in the menu, a default title is used. If the SIM AT Menu Item is selected by pressing 'Select', all the items sent in the Set Up Menu command will be available for selection, in the same way as the Select Item command.

# Entertainment

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## Audio and Video

| File types   | Formats   | Extensions   |
|--|---|--|
| Audio<br>(All listed audio file formats are supported ringtone file formats) | MP4<br>MP3<br>M4A<br>3GPP™<br>AMR-NB<br>AMR-WB<br>WAV<br>G-MIDI 1<br>SP-MIDI<br>RealAudio ® 8<br>iMelody<br>XMF<br>WMA  | .mp4<br>.mp3<br>.m4a<br>.3gp<br>.amr<br>.awb, .amr<br>.wav<br>.mid<br>.mid<br>.ra, .rm<br>.imy<br>.xmf<br>.wma |
| Video<br>(including audio part)  | MP4 (video: MPEG4, audio: AAC or AMR)<br>3GPP™ (video: MPEG4 or H.263, H.264, audio: AAC or AMR)<br>RealVideo ® 8<br>WMV  | .mp4<br>.3gp<br>.rv, .rm<br>wmv, .asf  |
| Streaming transport  | RTSP according to 3GPP™   |  |
| Video encoding   | H.263 Profile 0, Level 10<br>MPEG-4 Simple Visual Profile Level 3   |  |
| Video decoding   | MPEG-4 Simple Visual Profile Level 3<br>H.263 Profile 0, Level 10<br>H.264 Baseline Profile (Main subset), Level 1b<br>RealVideo 8  |  |
| Audio encoding   | AMR-NB<br>AAC-LC  |  |
| Audio decoding   | MP3 (MPEG-1/2/2.5, audio layer 3), AAC, AAC+, eAAC+, AMR-NB, AMR-WB, AMR-WB+, RealAudio 8 (depending on configuration), WMA version 2,7,8: Class 1, WMA version 9: Level 3, GM, GML, SP-MIDI. |  |

# Java™

| Feature                       | Functionalities   |
|-------------------------------|---|
| Java™ Platform, Micro Edition | <ul style="list-style-type: none"> <li>• JSR-75 PDA/File</li> <li>• JSR-82 Bluetooth Wireless Technology API</li> <li>• JSR 118 MIDP 2.1</li> <li>• JSR-120/205 WMA 2.0</li> <li>• JSR-135 MMAPI 1.1</li> <li>• JSR 139 CLDC 1.1</li> <li>• JSR-172 Web Services</li> <li>• JSR-177 Security and Trust Services</li> <li>• JSR-180 SIP</li> <li>• JSR-184 Mobile 3D Graphics</li> <li>• JSR 185 Java™ Technology for the Wireless Industry</li> <li>• JSR-211 Content Handler</li> <li>• JSR-226 SVG</li> <li>• JSR-229 Payment</li> <li>• JSR-234 Adv Multimedia Supplements</li> <li>• JSR-238 Mobile Internationalization</li> <li>• JSR-239 OpenGL ES</li> <li>• JSR-248 Mobile Services Architecture</li> <li>• JSR-256 Mobile Sensor API</li> <li>• Nokia UI API</li> </ul> |
| Java 3D                       | <ul style="list-style-type: none"> <li>• Mascot Capsule Ver.3</li> <li>• JSR-139 OpenGL ES</li> <li>• JSR 184 Mobile 3D Graphics API for J2ME™</li> </ul>   |

## Imaging/Messaging

### 2 Megapixel camera

| Facts and figures          |   |
|----------------------------|---|
| Digital still camera (DSC) |   |
| Truecolour                 | Yes   |
| Digital zoom               | Main camera: 2.5x zoom (in VGA mode).   |
| Autofocus                  | No  |
| Photo fix                  | Improves an under-exposed picture by calculating and adjusting the light balance. |
| Still camera settings bar  |   |
| Shoot modes                | Normal, Panorama, Frames, Burst.  |

**Facts and figures**

|                            |   |
|----------------------------|---|
| Picture sizes (resolution) | <b>2 MP</b> (1600x1200 pixels)<br><b>1 MP</b> (1280x960 pixels)<br><b>VGA</b> (640x480 pixels)<br>Note: MP = Megapixel. |
| Night mode                 | Off, On.  |
| Self-timer                 | Off, On   |
| Effects                    | Off, Black & white, Negative, Sepia.  |
| White balance              | Auto, Daylight, Cloudy, Fluorescent, Incandescent.  |
| Picture quality            | Normal, Fine.   |
| Review                     | On, Off   |
| Shutter sounds             | Yes   |
| Auto rotate                | Off, On   |
| Reset file number          | Yes   |
| Save to memory             | Memory card, phone memory   |

**Video recorder**

|                           |                                     |
|---------------------------|-------------------------------------|
| Video size (resolution)   | QVGA 320x240pixels                  |
| Frame rate                | 15 fps (frames per second)          |
| Digital zoom              | Main camera: 4x zoom                |
| Video camera settings bar |                                     |
| Video clip length         | Up to 2 hours, For picture message. |
| Night mode                | Off, On                             |
| Photo light               | Off, On                             |
| Self-timer                | Yes, same as camera                 |
| Effects                   | Yes, same as camera.                |
| White balance             | Yes, same as camera.                |
| Microphone                | Off, On.                            |
| Reset file number         | Yes, same as camera.                |
| Save to memory            | Yes, same as camera.                |

## Images

Images can be shared via Bluetooth connection, MMS, email message, computer file transfer or memory card.

The image size is limited by the amount of free RAM.

| Formats | Details   |
|---------|---|
| JPEG    | ISO/IEC JPEG<br>Baseline DCT<br>Progressive DCT<br>Non-differential<br>Unlimited size |
| GIF     | 87a, 89a, support for interlacement, animation and transparency<br>Unlimited size     |
| BMP     | Windows® bitmap format  |
| PNG     | Unlimited size  |
| SVG     | SVG Tiny 1.2  |
| WBMP    | Wireless bitmap<br>Unlimited size   |

## Supported character sets

| Decoding text (Incoming MMS) |        |
|------------------------------|--------|
| US-ASCII                     | UTF-7  |
| ISO-8859-1                   | UTF-8  |
| ISO-8859-2                   | UTF-16 |
| Windows-1251                 | KOI8-R |
| ISO 10646 (UCS-2)            |        |
| Coding text (Outgoing MMS)   |        |
| UTF-8                        |        |

## Short Messaging Service

| Feature                   | Support   |
|---------------------------|---|
| SMS Service Centre Number | It is possible to pre-load the SMS Service Centre Number.   |
| Pictures                  | It is possible to insert a picture or an icon into the text message. EMS compliant mobile phones will be able to see the picture correctly. |
| Reply to messages         | It is possible to reply to received messages by SMS, MMS, voice message and email.  |
| Input methods:            | Predictive writing and multitap.  |
| Copy and paste words      | Yes   |

| Feature  | Support  |
|--|--|
| Teaching of predictive words that are not in the predictive dictionary     | Yes  |
| Possibilities when creating a message:                                     |  |
| Save a sent message in a "Sent items" folder                               | Yes  |
| Insert a line in the message   | Yes  |
| Assign a validity period to the message                                    | Yes  |
| Use predefined messages  | Yes  |
| Possibilities when receiving a message:                                    |  |
| Reply to the sender  | Yes  |
| Forward the message  | Yes  |
| Save the message on SIM  | Yes  |
| Get delivery time and date   | Yes  |
| Possibilities of the previously sent message:                              |  |
| Delivery report of the message   | Yes (if requested when sending).                             |
| Forward the message  | Yes  |
| Save the message on SIM  | Yes  |
| Know the remaining capacity storage  | Yes, > 95% full warning, capacity on SIM when saving to SIM. |
| Possibilities of the previously received message:                          |  |
| Reply to the sender  | Yes  |
| Save the message in the inbox  | Yes  |
| Forward the message  | Yes  |
| Know the remaining capacity storage  | Yes, > 95% full warning, capacity on SIM when saving to SIM. |
| Supported ways for replying to a received SMS:                             |  |
| Via SMS, MMS, voice message, email   | Yes  |
| Via phone call (set up a call to the number contained in the message body) | Yes  |
| Via WAP call (go to the WAP address contained in the message body)         | Yes  |
| Via USSD session   | No   |
| Print via infrared   | No   |

| Feature   | Support                           |
|---|-----------------------------------|
| Possibility to enable the user to send an SMS to a list of recipients | Yes                               |
| Possibility to write an email address as a recipient address          | Yes, if email gateway is present. |
| SMS storage   | On the SIM and in the phone.      |
| Nokia Picture Messaging   | Yes                               |

## Enhanced Messaging Service

| Feature  | Support   |
|--|---|
| Level of compliance supported by the phone regarding the specifications described in release 99. | Enhanced Messaging Service (EMS) according to the standard 3GPP™ TS 23.040 v4.3.0, with the addition of the ODI feature from 3GPP™ TS 23.040 v5.0.0.  |
| Number of messages that the phone is able to handle to generate a concatenated message           | 10  |
| Capacity storage   | Up to 1000 and the space on the SIM card.   |
| Outgoing messages  | It is possible to: <ul style="list-style-type: none"> <li>• see how many short messages an EMS message consists of before sending it.</li> <li>• choose whether to send the message or not after writing it.</li> </ul>   |
| Incoming messages  | <ul style="list-style-type: none"> <li>• A signal is heard once all parts of the message have been received or when a time-out occurs.</li> <li>• It is possible to re-use the content of an EMS message. Sounds, pictures, and animations can be inserted in a new message, if the object is not protected using ODI.</li> </ul> |
| Delivery report for concatenated messages  | A receipt is received in the phone when all parts of a concatenated message have been delivered if a delivery report is requested when it is being sent.  |
| Insert objects   | It is possible to add pictures, animations and sounds to an EMS message.  |
| Sounds   | Chimes high, chimes low, ding, tada, notify, drum, claps, fanfare, chords high, chords low.   |
| I-melody   | Yes, version 1.2.   |
| Melodies   | It is possible to: <ul style="list-style-type: none"> <li>• receive (always), send via EMS (if not copyright protected).</li> <li>• download melodies and commercial tunes from WAP/WAP portals.</li> </ul>   |
| WBMP   | Yes   |

| Feature   | Support  |
|---|--|
| Picture sizes   | 16x16, 32x32 pixels, variable size in black and white.   |
| Pictures  | It is possible to: <ul style="list-style-type: none"> <li>• edit pictures using PhotoDJ™.</li> <li>• receive (always), send via EMS (if not copyright protected).</li> <li>• download pictures from WAP/WAP portals.</li> </ul>  |
| Animations  | There is support for the following animations: Angry, Crying, Flirty, Happy, Kiss, Sad, Tongue, Wow, Confused, Devil, Glasses, Indifferent, Laughter, Sceptical and Wink, as defined in 3GPP™ TS 23.040 v4.3.0.<br>It is possible to: <ul style="list-style-type: none"> <li>• send and receive animations.</li> </ul> |
| TP-PID field value given by the phone before sending an EMS message | 0x00   |

## Multimedia Messaging Service

| Feature   | Support   |
|---|---|
| MMS/CSD parameters and MMS/GPRS parameters placement  | MMS is bound to a MMS profile.<br>A MMS profile is bound to a Data account.<br>A data account contains either CSD parameters or GPS parameters and possibly proxy settings. |
| Possibility to pre-configure the MMS parameters in factory  | <ul style="list-style-type: none"> <li>• MMS/CSD: Yes</li> <li>• MMS/GPRS: Yes</li> </ul>   |
| Possibility to configure the MMS parameters by OTA provisioning   | <ul style="list-style-type: none"> <li>• MMS/CSD: Yes</li> <li>• MMS/GPRS: Yes</li> </ul>   |
| Possibility for all the parameters from the parameters set to be OTA provisioned at the same time                           | <ul style="list-style-type: none"> <li>• MMS/CSD: Yes</li> <li>• MMS/GPRS: Yes</li> </ul>   |
| Possibility for only one parameter, in the set of parameters, to be OTA provisioned   | <ul style="list-style-type: none"> <li>• MMS/CSD: No</li> <li>• MMS/GPRS: No</li> </ul>   |
| OTA provisioning solution   | OMA provisioning  |
| Supplier indication of realized interoperability tests between its MMS User Agent and MMS Relay/Server from other suppliers | Yes   |
| Support of a standard procedure for OTA provisioning of MMS parameters  | OMA provisioning  |



| Feature  | Support  |
|--|--|
| Functionalities that the user is able to set during message composition:     | <ul style="list-style-type: none"> <li>• message subject</li> <li>• message priority</li> <li>• email recipient address</li> <li>• message Cc, Bcc recipient(s) address(es)</li> <li>• delivery report request</li> <li>• read report request</li> <li>• MSISDN recipient address</li> <li>• Delivery time</li> <li>• Validity period</li> </ul>                                 |
| From where can the user insert multimedia elements into multimedia messages: | File Manager<br>Photo album<br>Directly from camera<br>Contacts<br>Calendar<br>Task<br>Note<br>Browser (vBookmark)   |
| Possibility for sent messages to be memorized into a folder in phone memory  | Yes  |
| Actions that the user can perform after message retrieval:                   | <ul style="list-style-type: none"> <li>• reply to the sender of the message SMS/MMS</li> <li>• reply to the sender and to Cc, Bcc people SMS/MMS</li> <li>• forward the message</li> <li>• delete the message</li> <li>• save message in a dedicated folder</li> <li>• call the sender of a message</li> <li>• save item</li> <li>• mark as unread</li> <li>• details</li> </ul> |
| Multimedia codecs/formats supported for audio                                | AAC, AMR, MPEG Layer 3, Real 8, AWB, WAV, MP4, MIDI, iMelody, 3GPP™, XMF, M4A, WMA.  |
| Multimedia codecs/formats supported for video                                | MPG4, 3GPP™, SDP, Real 8, WMV.   |
| Multimedia codecs/formats supported for image                                | JPEG, GIF87, GIF89A, PNG, SVG, WBMP, BMP.  |
| Supported formats for message presentation:                                  | <ul style="list-style-type: none"> <li>• message body + attachments (email presentation)</li> <li>• SMIL version as described in OMA MMS IOP document version 1.2</li> </ul>   |
| Maximum message size that can be handled by the phone for message            | Content Class and Creation mode are applied. Maximum size can also be customized.  |
| Maximum number of object supported in message                                | 30 objects is standard. It is possible to increase the number through configuration.   |
| Maximum text size  | 5,000 characters/text  |

## Email client technical data

| Feature                       | Support  |
|-------------------------------|--|
| Bearer type GSM Data (IP)     | Yes, GPRS, HSCSD, ISDN and analog  |
| Character sets                | ISO: ISO-8859-1, ISO-8859-2, ISO-8859-5, ISO-8859-7, ISO-8859-9, ISO-8859-10<br>Windows: Windows-1251, Windows-1252, Windows-1254, Windows-1255, Windows-1258<br>US-ASCII<br>Unicode: UTF-7, UTF-8, UTF-16<br>Japanese: Shift_JIS, ISO-2022-JP<br>Cyrillic: KOI8-R<br>Simplified Chinese: GB2312, GB18030<br>Traditional Chinese: Big5 |
| OTA provisioning solution     | Yes  |
| Protocols                     | POP3 and IMAP4   |
| Push email                    | IMAP Idle (extension of IMAP4Rev1), OMA Email Notification 1.0 and scheduled checking  |
| Secure email                  | SSL/TLS, both port methods (POPS/IMAPS) and STARTTLS   |
| Remote configuration          | OMA Client Provisioning  |
| HTML mail                     | Yes (tags removed)   |
| Thumbnailed image attachments | Yes  |
| Message management            | User selectable inbox size, save messages to Memory Stick, arrange messages by categories<br>Headers only or size limits   |
| ESMTP                         | Yes  |
| Background sending            | Yes  |

# Connectivity

## Bluetooth™ technical data

| Dimension                      | Support   |
|--------------------------------|---|
| Bluetooth capability statement | This phone supports Bluetooth Specification, version 2.0 with enhanced data rate (EDR).   |
| Bluetooth profiles             | Basic Imaging Profile<br>Dial-up Networking Profile<br>File Transfer Profile<br>Generic Access Profile<br>Generic Object Exchange Profile<br>Handsfree Profile<br>Headset Profile<br>Human Interface Device (HID) Profile<br>Java API<br>Object Push Profile<br>Personal Area Networking Profile<br>Serial Port Profile<br>Synchronization Profile<br>SyncML OBEX binding<br>Advanced Audio Distribution Profile (A2DP)<br>Audio/Video Remote Control Profile<br>Phonebook Access Profile |
| Connectable devices            | All products supporting Bluetooth spec. 1.1, or higher, and at least one of the profiles above.   |
| Coverage area                  | Varies due to radio performance on remote device and the occurrence of obstacles. Up to 10 metres (33 feet).  |
| Transmission power             | Class 1, typical +3dBm or 2mW   |
| Frequency band                 | 2.4 GHz - the unlicensed ISM band.  |
| Power consumption              | GSM host processor excluded: <ul style="list-style-type: none"> <li>• Standby, Bluetooth On mode: &lt;0.6mA</li> <li>• Voice to headset (HV3 master): 12 mA (8 mA with EDR functionality, 2EV3 master). Dependent on various parameters such as if the phone is master or slave.</li> <li>• Data mode average: 29 mA at 172.8 Kbps symmetrical (DH1).</li> </ul>  |
| Data transmission rate         | Up to 600 Kbps asymmetric and up to 350 Kbps symmetric from an application level.   |

## OMA Data Synchronization (SyncML) technical data

| Feature  | Support for Sync ML   |
|--|---|
| SyncML compliance  | The phone is fully SyncML compliant, having passed SyncML Conformance testing. SyncML 1.2 or SyncML 1.1.2 is used depending on configuration and both are supported in Server-alerted synchronization.  |
| Basic data formats   | Contacts: vCard 2.1, Calendar: vCalendar 1.0 (vEvent)<br>Tasks: vCalendar 1.0 (vTodo)<br>Notes: text/plain, Bookmarks:vBookmark 1.0   |
| Possibility for operators to extend SyncML functionality.  | The device may be configured to include preset SyncML settings, and to control whether SyncML 1.1 or SyncML 1.2 will be used.   |
| Transport method for SyncML messages.  | HTTP, HTTPS, OBEX (USB, Bluetooth)  |
| Possibility for the user to configure login parameters (for example, username and password) to access the remote database. | Yes   |
| Configuration parameters that can be entered/modified by the user.   | Server URL, Username, User PWD, Paths to databases (Calendar, Contacts, Notes, Tasks and Bookmarks), UserID and PWD for databases, Databases to be synchronized (On/Off), Internet profile, Synchronization interval, Server ID and Server PWD, permission to allow server-alerted synchronization and roaming options. Can be provisioned with OMA Client provisioning v1.1 and OMA Device Management v1.2 |
| Ability to deal with multiple servers.   | Yes   |
| Ability to perform conflict resolution actions.  | No  |

## Microsoft® Exchange ActiveSync

| Feature  | Support for Exchange ActiveSync   |
|--|---|
| Protocol version   | The phone supports version 2.5 of Microsoft Exchange ActiveSync.  |
| Supported applications   | Email, Calendar, Phonebook  |
| Transport method used  | HTTP, HTTPS   |
| Possibility for the user to configure login parameters for remote server | Yes   |
| Configuration parameters that can be entered/modified by the user        | Server URL, username, domain name, password, applications to sync, email message size, email attachment size, email date range, message alert sound, calendar date range, interval sync, secure connection, roaming option. |

| Feature                                | Support for Exchange ActiveSync |
|--|---------------------------------|
| Ability to use multiple servers        | No                              |
| Ability to perform conflict resolution | No                              |

## Web browser technical data

| Feature                | Support in the browser   |
|------------------------|--|
| Bookmarks              | Yes, with folders and sorting supported.   |
| Bookmark Export/Import | Yes, can be sent and received using vBookmark format via, Bluetooth™, SMS, MMS and email.  |
| Browser compliancy     | <p>The Web browser is compliant with the following standards:</p> <p>HTML 4.01<br/> XHTML Basic 1.0<br/> XHTML 1.1, Module-based XHTML<br/> XHTML Mobile profile<br/> Compact HTML for Small Information Appliances<br/> WML 1.3<br/> Cascading Style Sheets, level 2 revision 1, CSS 2.1 Specification<br/> WAP CSS Specification, Version 26-Oct-2001 (WAP-239-WCSS-20011026-a)<br/> ECMA-script according to specifications found at <a href="http://www.ecma-international.org/publications/standards/Stnindex.htm">http://www.ecma-international.org/publications/standards/Stnindex.htm</a><br/> ECMAScript Mobile Profile<br/> AJAX (Asynchronous JavaScript and XML)<br/> Document Object Level Model 2 (DOM 2)<br/> Scalable Vector Graphics, Mobile SVG Profile: SVG Tiny, version 1.2</p> <p>For further details, see the <i>WAP User Agent strings and profiles for Sony Ericsson mobile phones</i> Developers guidelines at Developer World <a href="http://developer.sonyericsson.com">http://developer.sonyericsson.com</a></p> |
| Browser version        | Access NetFront 3.4  |
| Cache                  | Yes (size 300 kB and 1 MB Flash).  |
| Character sets *       | <p>Most standard character sets, among others UTF-8 (Default), UTF-16, USASCII, Latin1, UCS2.</p> <p>For updated and detailed information, see the <i>WAP User Agent strings and profiles for Sony Ericsson mobile phones</i> Developers guidelines at Developer World <a href="http://developer.sonyericsson.com">http://developer.sonyericsson.com</a></p> <p>*) When creating WML applications, it is recommended to always save the page contents as UTF-8.</p>  |
| Clear cache            | Yes, persistent. By user interaction, at SIM card change or master reset.  |
| Frames                 | Full Frame support: Frames, IFrames  |

| Feature   | Support in the browser  |
|---|---|
| Image formats and animations  | GIF (interlaced and non-interlaced) WBMP, JPEG, PNG, BMP and SVG. Animated GIFs, animated SVG and Flash.  |
| Schemes   | wtai, mailto:, smsto:, tel, rtsp, http, https   |
| Streaming   | Mobile TV, progressive download, RTSP, Java script controls.  |
| Web feeds   | RSS ticker, podcasts, enclosures, OPML import. No support for ATOM.   |
| <b>User agent profile</b>   |   |
| User Agent Profiles   | Yes, list of client characteristics - for example screen size.<br>For details, see the <i>WAP User Agent strings and profiles for Sony Ericsson mobile phones</i> Developers guidelines at Developer World<br><a href="http://developer.sonyericsson.com">http://developer.sonyericsson.com</a> |
| URL sent pointing to the UA profile at the beginning of browser session | Yes. For details, see the <i>WAP User Agent strings and profiles for Sony Ericsson mobile phones</i> Developers guidelines at Developer World<br><a href="http://developer.sonyericsson.com">http://developer.sonyericsson.com</a>  |
| <b>Download</b>   |   |
| OMA download functionality  | Yes   |
| HTTP GET solution to download content/ Uses browser for download        | Yes   |
| Other download content  | Yes. No download limit when using HTTP protocol.  |
| Download application/product memory check                               | Yes   |
| Downloaded object solution  | Yes. The user is informed where the content is saved and asked if it should be used at once or later.   |
| UAP indication for downloading  | Yes   |
| Other features  | Yes. Store, delete, forward, use, manage.   |
| Object formats  | All formats can be downloaded and stored, but only formats supported by the phone can be used by the phone.   |
| Resume  | Yes   |
| Background download   | Yes   |
| Progressive download  | Yes   |
| Streaming   | Yes   |
| <b>Browser GUI</b>  |   |
| Selection keys  | Yes. Green/Red paradigm plus two selection keys and centre navigation key.  |
| Separate/dedicated back or erase keys                                   | Yes   |

| Feature   | Support in the browser  |
|---|---|
| Display backlight on when browsing                          | Yes   |
| Predictive writing  | Yes   |
| “http://” string displayed automatically when entering URLs | Not displayed but the “http://” is added automatically to the URL.  |
| “www” added automatically when entering URLs                | No  |
| Combined Search/Go To input field                           | Intelligent input field changes appearance (Search or Go to) depending on user input. “www”, “.com” and other URL syntax can be used to trigger the Go To appearance. |
| <b>Internet network features</b>                            |   |
| Bluetooth (as local connection)                             | Yes   |
| Infrared (as local connection)                              | No  |
| Network settings  | Yes   |
| PPP Authentication  | PAP, CHAP supported.  |
| Security  | HTTPS authentication<br>TLS version 1<br>SSL version 3<br>WIM on SIM ICC<br>X.509 certificate support, WAP Profile<br>WPKI OTA download of trusted certificates       |
| USB (as local connection)                                   | Yes   |
| <b>PUSH</b>   |   |
| <b>Content types</b>  |   |
| Service Indication (SI)                                     | Yes   |
| Service Loading (SL)  | Yes   |
| Cache Operation (CO) content type                           | No  |
| Session Initiation Application (SIA)                        | Yes   |
| <b>Man Machine Interface</b>                                |   |
| SI/content retrieval postponing                             | Yes   |
| SI menu structure accessibility                             | Messaging, Inbox  |
| SL reception warning  | The user can make a choice if a dialogue is wanted or not before loading the SL.  |
| SIA reception warning                                       | Yes   |

| Feature                    | Support in the browser   |
|----------------------------|--|
| Cache size limitations     | The oldest push in the inbox will be discarded.  |
| Number of push messages    | Depends on the size of the push messages. Around 20 push messages with a size of 1024 bytes URL and 1024 bytes Indications for Service Indication can be stored.   |
| Push deactivate            | Yes  |
| Dynamic push menu changes  | No. There are no changes in the menus when activating/deactivating push.   |
| <b>Security</b>            |  |
| Mechanisms for push        | None   |
| Trust with PPG             | Sending a SIA is the most reliable.  |
| WSP push sessions          | No   |
| HTTP push sessions         | The White List (a setting to allow push messages only from certain addresses) is supported for IP address.   |
| SMS connection-less push   | The White List (a setting to allow push messages only from certain addresses) is supported for SMS Center.   |
| Denial of service/spoofing | Setting to select when to allow push messages: Always, always ask or never. There is also a setting to select whether to allow push messages from all senders or only from certain addresses (the White List). |

## Client Provisioning

| Feature                   | Support  |
|---------------------------|--|
| <b>Provisioning</b>       |  |
| <b>Provisioning types</b> | <b>OMA Client provisioning (v1.1)</b>  |
| Total Parameter sets      | 10 (shared between the WAP provisioning types)<br>< or = 10 (total number of data accounts)  |
| Parameter set list        | <div> name,<br/>homepage and homepage<br/>title (1st bookmark<br/>element),<br/>proxy/GW address,<br/>bookmarks (remaining<br/>bookmark elements),<br/>CSD phone number,<br/>CSD data rate,<br/>CSD dial type,<br/>GPRS APN,<br/>protocol authentication,<br/>GW authentication,<br/>secure connection on/off </div> <div> name,<br/>homepage,<br/>proxy/GW address,<br/>CSD phone number,<br/>CSD data rate,<br/>CSD dial type,<br/>CSD response timer,<br/>GPRS APN,<br/>protocol authentication,<br/>GW authentication,<br/>GPRS QoS </div> |



| Feature                         | Support   |
|---------------------------------|---|
| Parameter sets include          | CSD, GPRS (different sets)  |
| Factory pre-configuration       | CSD (possibility to lock a setting), GPRS   |
| <b>OTA</b>                      | CSD, GPRS configuration possible.   |
| <b>Security mechanism</b>       |   |
| <b>Bearer</b>                   | <b>OMA Client Provisioning</b>  |
| OTA via SMS                     | Uses security mechanism (SEC) methods according to OMA-WAP-ProvCont-v1_1-20050428-C (see <a href="http://www.openmobilealliance.org">www.openmobilealliance.org</a> ).  |
| <b>Interface</b>                |   |
| <b>Bearer</b>                   | <b>OMA Client Provisioning</b>  |
| OTA via SMS                     | For NETWPIN the user is asked to accept to install received settings. For USERPIN, USERNETWPIN and USERPINMAC the user is subsequently asked to enter a PIN code that is a shared secret between the service provider and the user. |
| Re-provisioning Interface       | OMA Client Provisioning   |
| OTA via SMS                     | If the settings previously installed were privileged or have higher priority, it might not be possible to install the settings again unless the terminal is reset, otherwise as above.  |
| Carrier reset/provisioning      | Yes, but not if the set is pre-configured in the factory and locked.  |
| SWIM                            | Not used for provisioning. The SWIM is only used for WAP security, both SSL/TLS connections and digital signatures.   |
| <b>Applicative provisioning</b> |   |
| Preferred bearer customization  | Yes   |
| Other applications/features     | Yes (MMS, OMA Data Synchronization, Wireless Village, OMA Device Management, Streaming).  |
| <b>Technologies</b>             |   |
| OMA Client provisioning         | Yes, Client Provisioning version 1.1  |
| Openwave OTA                    | No  |
| Other                           | No  |
| Provisioning bearer             | SMS   |

| Feature                             | Support |
|-------------------------------------|---------|
| Parameter sets available            | Yes     |
| Parameter sets for OTA modification | Yes     |

# Abbreviations

## **3GPP™**

3rd Generation Partnership Project

## **AAC+**

Advanced Audio Coding

## **AMR**

Adaptive Multi Rate.  
Audio format for speech sounds.

## **API**

Application Programming Interface

## **Bluetooth PAN**

Bluetooth Personal Area Network

## **CS**

Circuit Switched

## **CSD**

Circuit Switched Data

## **DRM**

Digital Rights Management. Controlling copying and distribution of contents, with respect to intellectual property rights.

## **DTMF or Touch Tone**

Dual Tone Multi-Frequency signal. Codes sent as tone signals. Used for telephone banking, accessing an answering machine, etc.

## **EDGE**

Enhanced Data Rates for GSM Evolution

## **e-GSM**

Extended GSM. New frequencies specified by the European Radio Communications Committee (ERC) for GSM use when additional spectrum is needed (network-dependent). It allows operators to transmit and receive just outside GSM's core 900 frequency band. This extension provides increased network capability.

## **eAAC+**

Enhanced Advanced Audio Coding

## **EDR**

Enhanced Data Rate.

## **EFR**

Enhanced Full Rate, speech coding.

## **EMS**

Enhanced Messaging Service. Allows the user to add simple pixel pictures and animations, sounds and melodies to a text message. The EMS 3GPP™ standard also includes text formatting.

## **ETSI**

European Telecommunications Standards Institute.

## **FM**

Frequency Modulation of the (radio) carrier wave.

## **FR**

Full Rate, speech coding.

## **GIF**

Graphics Interchange Format

## **GPRS**

General Packet Radio Services

## **GSM**

Global System for Mobile Communications. GSM is the world's most widely used digital mobile phone system, now operating in over 100 countries around the world, particularly in Europe and Asia-Pacific.

The GSM system family includes GSM 850, GSM 900, GSM 1800 and GSM 1900. There are different phases of roll-out for the GSM system and GSM phones are either phase 1 or phase 2 compliant.

## **HSCSD**

High Speed Circuit Switched Data. A communications standard enabling GSM data transfer 14.4 - 28.8 Kbps.

## **HTML**

HyperText Markup Language

## **HTTP**

HyperText Transfer Protocol

## **JPEG**

Joint photographer expert group

## **MIDI**

Musical Instrument Digital Interface

## **ME**

Mobile Equipment

## **MMI**

Man-Machine Interface. See UI.

## **MP**

Megapixel

## **MP3**

Short for "MPEG-1 layer 3", an effective audio coding scheme.

## **MPEG4/MPG4**

MPEG-4 extends the earlier MPEG-1 and MPEG-2 algorithms with synthesis of speech and video, fractal compression, computer visualisation and artificial intelligence-based image processing techniques.

## **MT**

Mobile Termination

## **ODI**

Object Distribution Indicator

## **OMA**

Open Mobile Alliance

## **OTA**

Over-The-Air Configuration. To provide settings for the phone by way of sending an SMS message over the network to the phone. This reduces the need for the user to configure the phone manually.

## **PDA**

Personal Digital Assistant

## **PDP**

Packet Data Protocol

## **PIM**

Personal Information Management

## **PNG**

Portable Network Graphic

## **RDS**

Radio Data System

## **RSS**

Really Simple Syndication

## **RTSP**

Real Time Streaming Protocol session control.

## **SI**

Service Indication

## **SL**

Service Loading.

## **SIM card**

Subscriber Identity Module card – a card that must be inserted in any GSM-based mobile phone. It contains subscriber details, security information and memory for a personal directory of numbers. The card can be a small plug-in type or credit card-sized, but both types have the same functions. The phone uses the small plug-in card.

## **SMS**

Short Messaging Service. Allows messages of up to 160 characters to be sent and received via the network operator's message centre to a mobile phone.

## **SP-MIDI**

SP-MIDI stands for Scalable Polyphony MIDI.

## **SS**

Supplementary Services

## **SSL**

Secure Socket Layer

## **TLS**

Transport Layer Security

## **TTI**

Transmission Time Interval

## **UI**

User interface

## **URL**

Uniform Resource Locator.  
The global address of documents and other resources on the World Wide Web.

## **USSD**

Unstructured Supplementary Services Data

## **vCard**

vCard automates the exchange of personal information typically found on a traditional business card, for use in applications such as Internet mail, voicemail, Web browsers, telephony applications, call centres, conferences, PIMs /PDAs, pagers, fax, office equipment and smart cards. vCard is specified by IETF.

## **VGA**

Video Graphics Array

## **WAP**

Wireless Application Protocol. Handheld devices, low bandwidth, binary coded, a deck/card metaphor to specify a service. A card is typically a unit of interaction with the user, that is, either presentation of information or request for information from the user. A collection of WML cards is called a deck, which usually constitutes a service.

## **WAP Application**

A collection of WML cards, with the new context attribute set in the entry card.

## **WAP service**

A WML application residing on a Web site.

## **WAV**

Windows media audio.

## **WBMP**

Wireless BitMap.  
A graphic format optimized for mobile computing devices.

## **WCDMA**

Wideband Code Division Multiple Access

## **WML**

Wireless Markup Language. A markup language used for authoring services, fulfilling the same purpose as HyperText Markup Language (HTML) does on the World Wide Web (WWW). In contrast to HTML, WML is designed to fit small handheld devices.

## **WMLScript**

Wireless Markup Language Script can be used to enhance the functionality of a service, just as, for example, Java Script may be utilized in HTML. It makes it possible to add procedural logic and computational functions to WAP-based services.

## **WSP**

Wireless Session Protocol

## **WWW**

World Wide Web

## **XHTML**

Extensible HyperText Markup Language

## **XML**

Extensible Markup Language

# Related information

## Documents

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- Sony Ericsson User Guide
- Sony Ericsson FAQ
- AT Command Reference Manual
- WAP 2.0 Specifications

## Links

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- [www.sonyericsson.com](http://www.sonyericsson.com)
- [www.ericsson.com/mobilityworld](http://www.ericsson.com/mobilityworld)
- [www.midi.org](http://www.midi.org)
- [www.gsmworld.com](http://www.gsmworld.com)
- [www.bluetooth.com](http://www.bluetooth.com)
- [www.imc.org](http://www.imc.org)
- [www.3gpp.org](http://www.3gpp.org)
- [www.etsi.fr](http://www.etsi.fr)
- [www.openmobilealliance.org](http://www.openmobilealliance.org)
- [www.java.sun.com](http://www.java.sun.com)
- [www.memorystick.org/](http://www.memorystick.org/)
- [www.memorystick.com/](http://www.memorystick.com/)
- [www.w3.org/TR/xhtml-basic](http://www.w3.org/TR/xhtml-basic)

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